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NEWTON'S TELECOM DICTIONARY

The Official Dictionary
of Telecommunications
Networking and
the Internet

16th
EXPANDED
& UPDATED
EDITION

BY HARRY NEWTON

Best Available Copy

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The Official

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NEWTON'S TELECOM DICTIONARY

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from the enterprise to the requires 6 Mbps — well second provided by a T-1, million bits per second). IMA is used. Thereby, the T-1 circuits by an access ability. The IMA process cell number 1 traveling over T-1 #2, and so on. tively inexpensive, can be readily available. At the switch receives each of the ses the IMA process to put ar, which is then switched to the far edge. At that far ce again, from the edge of id to the IMA-capable ATM MA is specified in the ATM D Inverse Multiplexing for l dated July 1997. Go to proved-specs/af-physy a copy of the 140-page

sy. One reader, Rosario istributed the following delites the essence of IMA: A rovides a modular band-works and for connection rates between the tradi- instance, between the synchronous digital hier-essarily readily available before the introduction of s an effective method of is of multiple links (e.g., ly provide higher interme-

and TDM.
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Protocol (1993), original- (1986). A next-generation replace POP (Post Office MAP allows users to cre- e WAN, as well as to scan d only selected messages. ified in RFC 1730. See

; Protocol 4, an emerging ; promise will make elec- er and safer. The original ten in 1987. See IMAP

IMAS Intelligent Maintenance Administration System. Northern Telecom software which is a menu-driven PC-based program that provides enhanced maintenance and administrative capabilities for DMS-10 central offices.

IMASS Intelligent Multiple Access Spectrum Sharing. A method of automatically determining the presence of existing private operational fixed microwave (OFM) systems in areas near base stations, and avoiding the use of frequencies for the PCS or cellular base station which might cause unacceptable interference. Instead the PCS or cellular systems will use frequencies in each area, which are not being used by nearby OFM (operational fixed microwave) systems. Techniques such as are helpful to PCS service providers coexisting with the incumbent OFM systems, until they can be relocated to different frequencies according to the FCC rules.

IMIP iCalendar Message based Interoperability Protocol. See iCalendar.

IMC See Internet Mail Consortium.

IMEI International Mobile station Equipment Identity. A wireless telecommunications term. An equipment identification number, similar to a serial number, used to identify a mobile station.

IMHO Abbreviation for "In My Humble Opinion;" commonly used on E-mail, on the Internet and BBSs (Bulletin Board Systems).

Immediate Ringing A PBX feature which makes the called telephone begin ringing the instant the phone has been dialed. Normally there's a small wait between dialing the number and having the phone ring.

Immunity From Suit A term I first saw in licensing agreements with Microsoft. The provision says that the company signing the agreement with Microsoft agrees not to sue Microsoft or Microsoft's customers and OEMs for infringement of said company's own patents. Some observers are claiming that signing an agreement with this provision would give Microsoft a royalty-free license to an outside company's patents.

IMNSHO In My Not So Humble Opinion. An acronym used in electronic mail on the Internet to save words or to be hip, or whatever. See IMHO.

IMO Abbreviation for "In My Opinion;" commonly used on E-mail and BBSs (Bulletin Board Systems). See IMHO.

IMP September 2, 1969 Professor Leonard Kleinrock births the Internet, with the installation of ARPAnet's first Interface Message Processor (IMP) in his lab at the University of California at Los Angeles. IMPs were packet-switching mini-computers, pre-Cisco routers, developed at Bolt, Bernanek and Newman (BBN) in Cambridge, Massachusetts. BBN was later merged into GTE, which then got merged into Bell Atlantic. Professor Kleinrock was the lead architect of the ARPAnet — the Defense Department's Advanced Research Projects Agency Network.

IMPACS An MCI International packets switching service that is useful to firms with overseas remote computing needs, and to scientific, educational or commercial organizations that need periodic access to U.S. database facilities. IMPACS also provides overseas users with communications links to their own computers in the USA for applications such as order entry, inventory control, billing, payroll, and sales statistics.

Impact Strength A test designed to ascertain the abuse a cable configuration can absorb, without physical or electrical breakdown. Done by impacting with a given weight, dropped from a given height, in a controlled environment.

Impact Tool Also called a "punch down" tool. See Punch Down Tool.

Impaired Condition that occurs when an individual circuit exceeds the transmission limits of its signaling function (e.g., seizure, disconnect, ANI) and failures occurs.

IMPDU Initial MAC Protocol Data Unit. A Connectionless Broadband Data Service (CBDS) term that corresponds to the L3 PDU in Switched Multimegabit Data Service (SMDS). CBDS is the European equivalent of SMDS.

Impedance The total opposition, or resistance to flow, of electrical current in a circuit. Impedance is the term used in non-direct current (i.e., Alternating Current, or AC) applications, while resistance is used in DC (Direct Current) applications. The unit of measurement of impedance is ohms. The lower the ohmic value, the better the quality of the conductor in terms of dimensions as gauge (i.e., thickness of the conductor), and anomalies (e.g., consistency of gauge and nicks in the conductor). Low impedance will help provide safety and fire protection and a reduction in the severity of common and normal mode electrical noise and transient voltages. For telecommunications, impedance varies at different frequencies. Ohm's law says that voltage equals the product of current and impedance at any single frequency. See also Resistance.

Impedance Matching The connection of additional impedance to existing impedance one in order to improve the performance of an electrical circuit. Impedance Matching is done to minimize distortion, especially to data circuits.

Implementors' Agreement An agreement about the specifics of implementing as a standard, reached by vendors who are developing products for the standard. Compare with De Facto Standard and De Jure.

Implied Acknowledgment Implied acknowledgment is a process whereby negative acknowledgment of a specific packet of information implies that all previously transmitted packets have been received correctly. See also Pipelining.

Import Imagine you have a software program, like a spreadsheet or a database. And you have information in that program. Let's say it's Microsoft Word or Lotus 123. And you want to get it into a different program, say to give it to a workmate who uses WordPerfect or Excel. You have to convert it from one format to another. From Word to WordPerfect or from Lotus to Excel. That process is typically called "exporting" and the process of your workmate getting it into his computer is called "importing." And you'll typically see the words "EXPORT" and "IMPORT" as choices on one of your menus.

Import Computers A Windows NT. In directory replication, the servers or workstations that receive copies of the master set of directories from an export server.

Import Script First read my definition of IMPORT. An import script is a series of specifications which control the merging processes. It contains a series of merge rules which specify how the fields are to be merged and a record precedence rule which governs which records to merge of the ones received.

Important Call Waiting Notifies you with a special ring that someone you want to hear from is calling you.

Improved Definition Television IDTV. Television that includes improvements to the standard NTSC television system, which improvements remain within the general parameters of NTSC television emission standards. These improvements may be made at the transmitter and/or receiver and may include enhancements in parameters such as encoding, digital filtering, scan interpolation, interlaced scan lines, and ghost cancellation. Such improvements must permit the signal to be transmitted and received in the historical 4:3 aspect ratio.

Improved Mobile Telephone Service IMTS. In the beginning, there was dispatch mobile service. The base oper-

- The West Coast orientation to Japan.

The above information courtesy of Electronics, Computers and Telephone Switching by Robert J. Chapuis and Amos E. Joel, Jr. See also Silicon Bayou, Silicon Forest, Silicon Mudflats, Silicon Valley and Sillywood.

Silicon Valley North The Ottawa area is called Silicon Valley North by the local high-tech press. Local high-tech companies include Nortel Networks, Newbridge Networks, ObjectTime, Corel, Mitel, JDS Uniphase (formerly JDS Fitel) and Cognos. Others with presence here include Cisco, Compaq and Siemens.

Silicon Valley A region in the state of Iowa that is fostering high-tech development. See also Silicon Bayou, Silicon Forest, Silicon Mudflats, Silicon Valley and Sillywood.

Silly Code See CLLI Code.

Silly Valley A silly term for Silicon Valley in California.

Sillywood The convergence of Silicon Valley and Hollywood.

SILS A Standard being formulated for Interoperating LAN Security.

Silver Satin Once upon a time, phones came with cords that matched the color of the phone. This proved expensive and confusing to workers, who were color blind, who had to match the cord with the phone. So a manufacturer (we think it was AT&T) decided that the time was ripe for all phones to have a cord that matched every decor and every phone. In actuality, the color they settled upon — silver satin — matches no decor man or woman has ever created and certainly no phone has ever been produced in the silver satin color. However, the world is now stuck with every phone coming with one standard, ugly line cord, called silver satin. See also Touchtone.

SIM 1. Subscriber Identity Module. A "smart" card installed or inserted into a mobile telephone containing all subscriber-related data. This facilitates a telephone call from any valid mobile telephone since the subscriber data is used to complete the call rather than the telephone internal serial number. See GSM and SIM Card for a better description.

2. Single Interface Module (SIM). An NEC term. — The minimum equipment configuration for the NEAX2400 IMS is the Single Interface Module. The SIM, says NEC, is a fully featured, totally non-blocking digital switch capable of supporting all NEAX2400 IMS feature package application programs. Typical stations installed range from only a few to 300 lines.

SIM Card Subscriber Identity Module, also called Smart Cards. Every mobile phone that conforms to the GSM (global system for mobile communications) and including many PCS (personal communications services) handsets has something called a SIM card. GSM phones won't work without these cards. Each SIM card contains a microchip that houses a microprocessor with eight kilobytes of memory. The card stores a mathematical algorithm that encrypts voice and data transmissions and makes it nearly impossible to listen in on calls. The SIM card also identifies the caller to the mobile network as being a legitimate caller. PCS and GSM cards come in two basic varieties. Some handsets work with slot-in SIM cards that are the size of conventional credit cards. Others come with smaller cards already built into the handset. GSM is the standard mobile service for Europe and Australia and most countries outside the U.S. Some PCS operators in the U.S. have adopted the GSM standard. See GSM.

SIMD Single Instruction Multiple Data is a type of parallel processing computer, which includes dozens of processors. Each processor runs the same instructions but on different

data and one chip provides central coordination. See also MIMD and MMX.

SIMM Single In-line Memory Module. Used on Macs and PCs. A form of circuit board that holds a number of silicon chips. The connectors (i.e., leads, or pins) are attached to a stiff contact strip that permits a SIMM to be inserted into a slot like an expansion adapter. On PCs, SIMM-style RAM chips have virtually replaced the dual in-line package (DIP) chips, identifiable by two rows of protruding legs, that were popular in the 1980s. The most common SIMM is the 30-pin, 9-bit wide "1 by 9", which is the standard memory upgrade for PCs. See also DIP, PGA, SIMM Socket, and SIP.

SIMM Socket The connector inside the Macintosh that holds the SIMM and connects it to the rest of the computer electronically.

Simple English What the SEC said that financial documents should be written in. Simple English is what normal people are meant to be able to read. This means that lawyers, who write most of these documents, are meant to speak. Good luck, SEC.

Simple Gateway Control Protocol SGCP is a protocol and an architecture that Bellcore has created to address the concept of a network that would combine voice and data on a single packet switched Internet Protocol (IP) network. SGCP largely operates at low level — level 2 in the OSI. So it will probably be combined with higher level concepts such as IPDC (IP Device Control) and MGCP (Media Gateway Control Protocol). According to Bellcore, the philosophy behind the Simple Gateway Control Protocol (SGCP) is that the network is dumb, the "endpoint" is simple, and services are provided by intelligent Call Agents, and not in the trunking gateway (TGW) or in the residential gateway (RGW). SGCP is simple to use and easy to program, according to Bellcore, but is powerful enough to support basic telephony services and enhanced telephony services like call waiting, call transfer, and conferencing. The protocol is also flexible enough to support future IP telephony services. The SGCP, according to Bellcore, is a simple UDP-based protocol, instead of TCP-based, that allows support for managing endpoints and the connections between the endpoints. The SGCP is scalable, has support for failovers, and processes information in real-time. There is a low CPU requirement and low memory requirement for the endpoint because the SGCP is handling a small set of simple transactions at a time. This means that the endpoint can then be mass-produced cheaply. And there is no need for expensive and resource-hungry parsers. The system is text-based, has an extensible protocol, and the connection descriptions are based on SDP. When new services are introduced by the call agent, there is no need to change or update the endpoint. SGCP controls the endpoint by hooking transactions, relying on DTMF input, and by playing tones. For full details see www.bellcore.com/SGCP/SGCPWhitePaper.rtf

Simple Mail Transfer Protocol SMTP. The TCP/IP protocol governing electronic mail transmissions and receptions. An application-level protocol which runs over TCP/IP, supporting text-oriented e-mail between devices supporting Message Handling Service (MHS). Multipurpose Internet Mail Extension (MIME) is a SMTP extension supporting compound mail, which is integrated mail, including perhaps e-mail, image, voice and video mail.

Simple MAPI Simple MAPI is a subset of MAPI that lets developers easily create "mail-aware" applications capable of exchanging messages and data files with other network clients

Simple Network Management The protocol governing network management of network devices and their functions. See TCP/IP environment.

Simple Network Paging Protocol A Versit term. A syntax in a clear-text encoding. Simplex based on the ASCII, 7-bit character set.

Simplex 1. Operating a channel in one direction. The ability to operate in the other direction of a telephone conversation is all that a Simplex line.

2. One-sided printing.

Simplex Loop Powering In T-1, re-use of the digital signal pairs that are simple (Ring) and that may have voltage applied required 60 mA dc current to control repetition, loopbacks, keep alive signals and : **SIMTEL20** The White Sands Missile Range has a giant collection of free and low-cost software which was "mirrored" to numerous old Internet. In the fall of 1993, the Air Force has things to do than maintain a free software down.

Simulcast To broadcast simultaneous channels (paths).

Simultaneous Peripheral Operation SPOOL. Temporarily storing programs, magnetic tape or in RAM for later output. PCs use a small software spooling program to be printed very quickly, stored in RAM, then feeds that material to the printer can handle. See Spooling.

Simulator A program in which a machine simulates an external system or process. For example, can simulate the forces that act on a built-up structure to find out how much damage is likely.

Simulation A technique, often involving guess the outcome of various events in the midst of complex events interact, simulate only way to deal with a given problem. used in traffic engineering instead of a proven formula. Many people believe that NEVER be used when standard, proper Poisson, Erlang B and Erlang C) are appropriate with simulation is actually finding out when programming them correctly. Once time, even on a fast computer, to run thousands of simulations to get a stable statistical estimate; a simulation, like a single roll of the dice, is. Simulators were built into hardware to behavior of AT&T's No. 5 Crossbar switch developed in the late 1940s; 1ESS behavior software in the 1960s. These were made by many people and several years, but they far beyond the capabilities of standard traffic simulation. In ancient Rome, eating the flesh of a considered a sin.

Sin Tax A tax imposed by sincere politicians that might remotely be fun. In the 1970s, the legislature proposed the enactment of a \$1000 tax on sexual intercourse. Concerns about the tax finally caused the legislature, in its infancy, to drop the idea.